

Impact of covid-19 on mood of dental professionals worldwide

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Abstract

Oral health professionals perceive that dentistry is more stressful than other health professions. Supporting the mental health of dentists is a critical part of Covid-19 pandemic. The present study designed to investigate future anxiety and stress of dentists worldwide due to Covid-19 pandemic. A total of 1022 participants completed a self-administered online questionnaire. The relationships between variables are evaluated by Student's unpaired t-tests and Mann-Whitney U test. Relationships with $p < 0.05$ or less were considered statistically significant. The result of research is The mean \pm SD perceived stress scale was 34.17 ± 5.32 females were insignificantly higher than males, whose mean was 33.13 ± 5.75 . Similar to the perceived stress, the mean \pm SD future anxiety was 111.3 ± 32.97 in females and 98.99 ± 33.35 in males. Future anxiety is not personal, it is societal and there is no significant difference between males and females in any subject.

Keywords: Covid-19, anxiety, dentists

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Introduction

Since The World Health Organization (WHO) has announced the novel coronavirus (COVID-19) outbreak, a global pandemic (Organization, 2020). the disease has spread dramatically in pandemic proportions. Currently, ten million cases of disease have been confirmed with half million deaths (Ahmad et al., 2020) During the past half century, coronaviruses are reported as causative agent of different respiratory infections but none of them were pandemic (Fung & Liu, 2019).

The nature of dental procedures causes close contact with patients including aerosol and droplets (Ather, Patel, Ruparel, Diogenes, & Hargreaves, 2020; Meng, Hua, & Bian, 2020). After detection of Covid-19 in saliva samples of infected individuals, dentists take a significant role in transmission chain with high risk of exposure and contamination.

In the fight against Covid-19 health workers have been facing huge pressure. Among them, dentists are health professionals most exposed to the risk of being infected by the virus, much more than other health professionals (Gamio, 2020). This situation brings several mental problems such as anxiety, stress and depressive symptoms. Protecting the mental health of dentists is thus important for control of the pandemic and their own long-term health.

The present study conducted in the spring of 2020, investigated future anxiety and stress of dentists worldwide due to current Covid-19 outbreak.

Method

Ethical Approval

This study is approved by Turkish Ministry of Health and XXXX University, Clinical Research Ethics Committee (09.2020.472).

Study Design

The study was a questionnaire-based analytical study incorporating two scales: Perceived Stress Scale (PSS) and Future Anxiety Scale (FAS). PSS was used to assess work stress and second for future anxiety evaluation. Additionally, multiple choice questions and one short answer question was added to categorize participants and compare responses.

Study Questionnaire

The present cross-sectional study was conducted using an online survey questionnaire. For this purpose, a self-administered online future anxiety and perceived stress scale questionnaire modified by authors distributed through social media and an e-mail to dental professionals. The questionnaire was comprised of total a total of 64 questions. The attitudinal questionnaire consisted of 29 statements of future anxiety assessment and 10 statements of perceived stress, each to be rated on a 6-point Likert-type scale, ranging from 1, strongly disagree, to 6, strongly agree. The questionnaire also requested information about sex, ethnicity, belief, marital status, family with 24 multiple choice questions and one short answer question. A total of 492 participants from different countries across the world participated the questionnaire. A cover letter accompanying the questionnaire encouraged participants to answer each item. To protect confidentiality, participants did not identify themselves. Perceived stress scale and future anxiety scale was evaluated according to previous reports (Hammad, 2016; Sullivan & Artino, 2013; Zaleski, 1996).

Statistical Analysis

Descriptive analysis used to give information about the general characteristics of the participants; frequency, percentage distribution, mean \pm standard deviation. The data of continuous variables are as mean \pm standard deviation; data on categorical variables are given as n (%). Quantitative variables were PSS and future anxiety scores. Cross table and chi-square tests were used to evaluate whether there was a relationship between qualitative variables. All the tests were performed with Eviews 11 (HIS Global Inc., USA).

Results and Discussion

The questionnaire is distributed online, and 1022 dentists participated in the survey. Loosely half of the participants (40.6%) were White/Caucasian/European American and one-fourth was Indian. Only 14.6% were Asian. 69.8% of the contributors were between the ages 25-45. More than half (35.7 % in own private practice, 19.4% in own polyclinics) were working in their private clinics. 22.2% of participants were working in governmental health facilities. The percentage of respondents by department were general dentistry 62.5%; endodontics, 7.8%; orthodontics, 5.3%; basic sciences, 5.2%; pedodontics, restorative dentistry and periodontology 4.7%; oral diagnostics and radiology, 2.1% and maxillofacial surgery was 0.5%. According to Chi-Square analysis, the extent to which specialists had cared for Covid-19 patients did not appear to significantly. While 70.6% of participants were married, 63.5% married with children. Almost two-third of the participants (72.9%) stop working due to Covid-19. While 48.4% of participants were anxious about to be infected by a patient, 35.6% were anxious about infecting a patient. Additionally; 22.4% of dental professionals participating our study strongly believe they have greater risk of catching Covid-19 in their workplace more than outside and 12.5% of them strongly does not believe any protection can protect themselves from Covid-19 in their workplace. Furthermore, while 70% of participants have a self-confidence; they were mostly very anxious about the problems awaiting them while seeing patients (50.1%). Almost half (41.2%) of contributors afraid they will not be appreciated in their profession even when they treat covid-19 patients. 24.6% of professionals strongly believe the government does not appreciate their profession and left dentists alone and 41.7% of them also believe the government does not care about public dental health. One-fourth (23.6%) of the participants think dentists can contribute the managing Covid-19 effectively. Also, 30.8% of the participants strongly think they wish they had a different job. 39.1% of participants strongly declared how anxious about have to work. On the other hand, 13.6% of them strongly disagree about this statement. While 57% of professionals are not sure about realizing occupational future plans, 30.8% of them strongly think they wish they have a different job. More than half (57.4%) of the participants feel time passing faster, and 47.8% of them feel nervous and stressed. 34,6% professionals feel they are unable to control the important things in their life. Similarly, 42.1% of them found that they could not cope with the things that they had to do. Most of participants (82.9%) believe in god, but just 3.9% of them strongly believe Covid-19 is a punishment of god. Interestingly, 22.8% have an impression that the world tends toward collapse (apocalyptic end) and 17.9% of participants feel that they are closer to death the more they fear it. 68.9% of them undoubtedly believe a solution to Covid-19, but

when “the first word which recalls Covid-19” was asked all participants chose negative words (death, danger, nightmare etc.) except one(hope). In other respects, 40% of participants hope that everything will go well.

The mean±SD perceived stress scale was 34.17±5.32 females were insignificantly higher than males, whose mean was 33.13± 5.75. Similar to the perceived stress, the mean±SD future anxiety was 111.3±32.97 in females and 98.99±33.35 in males. Overall results revealed that future anxiety is not personal, it is societal and there is no significant difference between males and females in any subject.

Since Cohen et al. developed PSS is frequently used as a stress assessment tool (Cohen, Kamarck, & Mermelstein, 1983). The questionnaire of the tool evaluated the feelings and thoughts during the last month. In our study we used PSS to investigate perceived stress level of dentists globally. Our results revealed all participants had high perceived stress in both sexes. There was no significant difference between sexes. However, people’s own personalities markedly change the stress perception (Jenkins, 1979). many reports revealed that both anxiety and depressive symptoms are observed often in dentists (Lang-Runtz, 1984; Möller & Spangenberg, 1996; Rønneberg, Strøm, Skaare, Willumsen, & Espelid, 2015) Additionally, oral health professionals perceive dentistry is more stressful than other health professions. Moreover, a study performed with 3,500 dentists reported 38% of participants as anxious. In our study, we do not have data of participants before Covid-19 outbreak. Thus, this situation not only limits our study, but also makes the elevated stress levels questionable.

Future anxiety firstly launched by the term “Future Schock” by Toffler (Esman, 1972), Zaleski developed this idea and described as a condition of misgiving, scare, vulnerability and anxiety of undesired changes expected to happen later on ($g=7$). This kind of anxiety could incorporate an assortment of foreseen dangers like the loss of the one of the relatives and can differ in terms of severity. Molin also revealed that future may become a source of fear for some people (Molin, 1990).

In our study, we modified Zaleski’s future anxiety questionnaire according to the viral outbreak. In the assessment of the future anxiety scale, measure ranges from 45 to 225 scores. Both male and female participants showed mild future anxiety due to the pandemic. Just like perceived stress, future anxiety does not exhibit significant difference between sexes. This is the first report investigating future anxiety of dentists.

Following the declaration of the viral outbreak by WHO, dentists have a significant role in disrupting the transmission chain. Due to the nature of dentistry, oral professionals are in close contact with oral secretions, and aerosols of body fluids and dental offices are markedly cross-infection areas. This situation may rise stress and anxiety levels of dentists. However, a very recent report showed that among physicians dentists had 6% fatality (Bescos, Casas-Agustench, Belfield, Brookes, & Gabaldón, 2020; Iyengar et al., 2020; Tyssen & Vaglum, 2002), and no death is reported in China (Firth-Cozens, 1999; Meng, et al., 2020).

Conclusion

In conclusion, similar to previous reports our results indicating high level of stress accompanying mild future anxiety in dentists. It is known that health professionals have been shown to exhibit higher level of depressive symptoms than other professions. Thus, dentists should not embarrassed by the thought of asking psychiatric support especially in this unexpected situation.

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